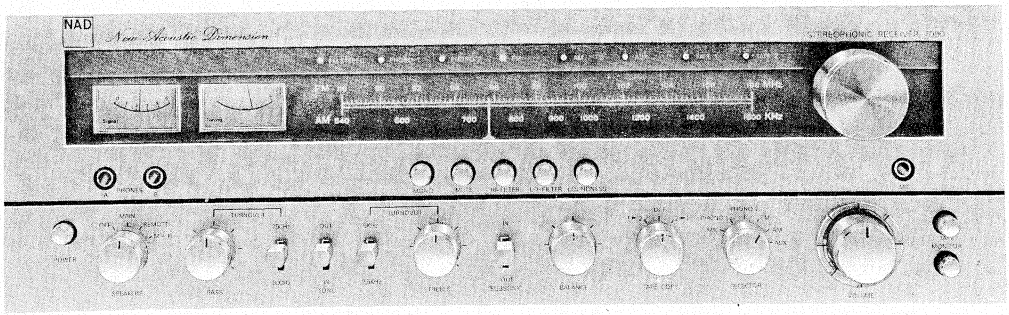
SERVICE MANUAL

NAD MODEL 7080

AM/FM STEREO RECEIVER



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SPECIFICATION

* Measurements identified by an asterisk are taken in accordance with the new IHF A-202 amplifier measurement standard.

Power Amplifier Section

* Continuous average power output at 8 ohms 20–20K Hz both channel driven		90W
Rated distortion, 20–20K Hz		< 0.03%
* Clipping headroom	at 8 ohms	+1.6db
Clipping power	at 8 ohms	130W
	at 4 ohms	160W
	at 2 ohms	180W
Dynamic headroom	at 8 ohms	+2.5db
Dynamic power	at 8 ohms	160W
	at 4 ohms	200W
	at 2 ohms	220W
* Reactive load rating		+2.5db
* Transient Overload Recovery Time		< 1usec
* Slew Factor		> 50
Slew Rate		40V/Nsec
Damping factor at 50 Hz (Ref. 8 ohms)		120
T.H.D. 20–20K Hz From 250 mW to 80W		< 0.03%
S.M.P.T.E. I.M.D. (60 Hz + 7KHz, 4:1) From 250mW to 80W		< 0.04%
I.H.F. I.M.D. (19KHz + 20KHz) at 80W		< 0.03%
T.I.M. (15KHz Sine + 3.18KHz Square Wave) at 80W		< 0.03%
Frequency Response, 20–20K HZ		± 0.5db
Frequency Response Range ± 3dB		5–50kHz

Preamplifier Section

* Input Impedance	Resistance/Capacitance		47kΩ/47PF
Input Sensitivity (1KHz)	* For 1 watt out		0.25mV
	80Watt out		2.5mV
Input Overload at	1KHz		200mV
	20 Hz		20mV
	20 KHz		2.0V
THD (20–20K Hz) and IMD at + 30dB input level			< 0.01%
RIAA Response Accuracy			± 0.3db
Siqnal to Noise Ratio A–weighted			
(a) with phono cartridge connected		Ref 10mV	> 82db
		* Ref 5mV	> 76 db
(b) with short-circuit input		Ref 10mV	> 90db

High level input

* Input impedance	Resistance/Capacitance		50kΩ/100PF
Input sensitivity	* For 1 watt out		16mV
	For 80 watt out		150mV
Siqnal to Noise Ratio, A–Weighted			
(a) with mute off		* Ref 1 watt out	> 80db
		Ref 80 watt out	> 95db
(b) with mute on		Ref 1 watt out	> 85db
* Maximum input signal			Infinite
Rrequency Response, 20–20K Hz			± 0.5db

Controls

Bass control, range at 50 Hz		± 11 and ± 13db
Treble control, range at 10 KHz		± 6 and ± 9db
Infrasonic filter	Turn over frequency	20Hz
	Slope (dB/octave)	12
High filter	Turn over frequency	8KHz
	Slope (dB/octave)	12

SPECIFICATION

FM Tuner Section

Input Sensitivity	IHF, 30dB quieting		1.8μV
	IHF, 50dB S/N Mono		3.0μV
	IHF, 50dB S/N Stereo		35μV
Signal to Noise Ratio (A Weighted, at 65 dBf) mono			74db
			70db
Frequency Response, 30–15K Hz			± 0.5db
De-emphasis Accuracy 75 μsec			± 0.3db
Channel Separation	1 KHz		40db
	30 – 15KHz		30db
Selectivity, alternate channel (400 KHZ)			70db
Capture Ratio at 45 dBf and 65 dBf			1.0db
AM Suppression at 45dBf and 65dBf			65db
Image Rejection			70db
I. F. Rejection			80db
SCA Rejection			70db
Pilot Signal Suppression			55db
THD at 100% Modulation	1 KHZ	Mono	0.2%
		Stereo	0.3%
	100 HZ	Mono	0.2%
		Stereo	0.3%
	6 KHZ	Mono	0.3%
		Stereo	0.4%
THD, Stereo, 1 KHZ	50%	Modulation	0.3%
	150%	Modulation	0.4%

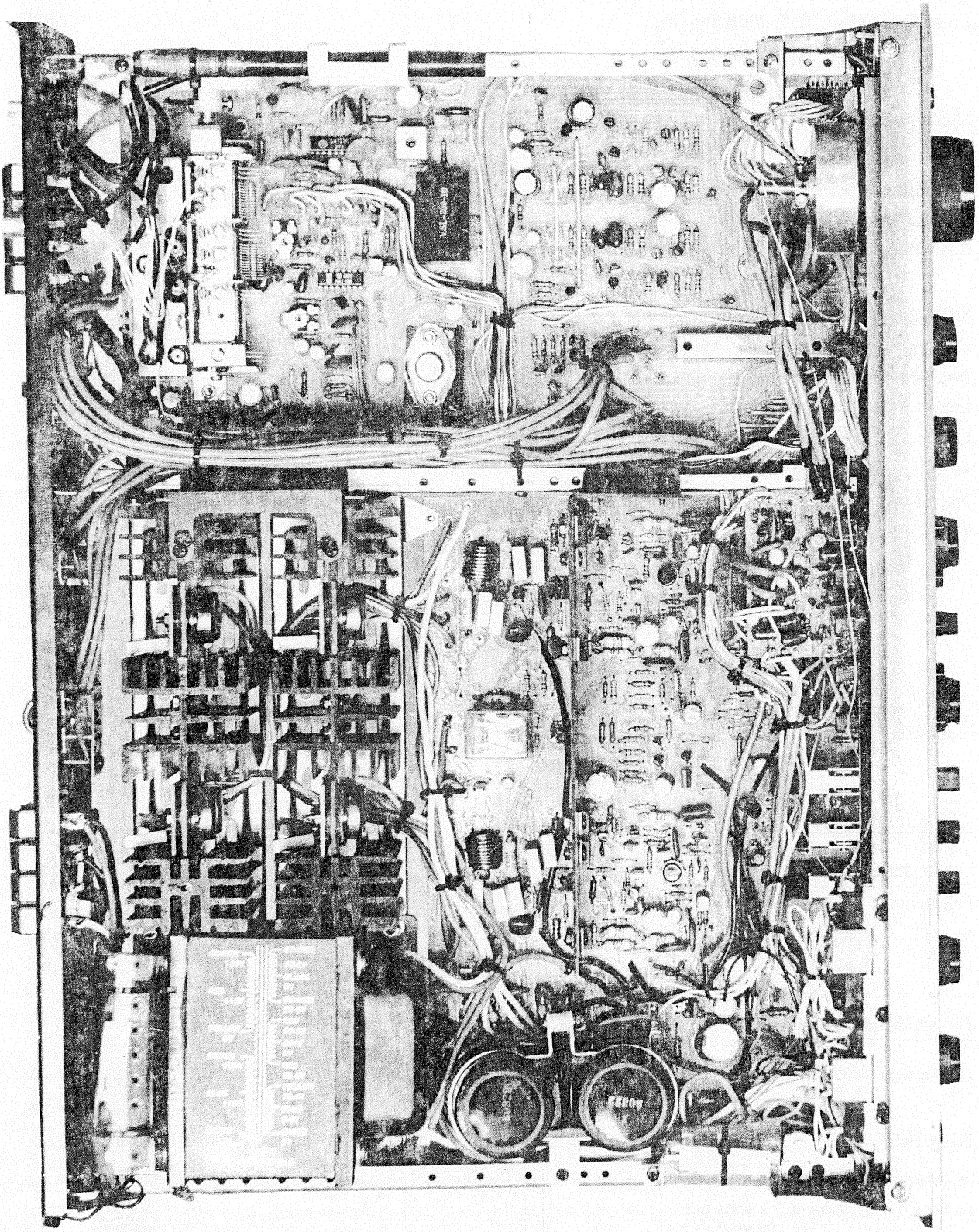
AM Tuner Section

Usable Sensitivity		300μV
Selectivity		30db
Image Rejection		55db
I. F. Rejection		45db

Physical Specification

Dimensions	Width x Height x Depth	19.6x6x14 inch
		49 x 15 x 36 cm
Net Weight		38.5lbs/17.5kg
Shipping Weight		47lbs/21.5kg
Power Consumption at	1 watt out	30VA
	80 watt out	400VA

INSIDE VIEW OF UNIT



ALIGNMENT (AUDIO)

1. IDLE CURRENT ALIGNMENT

1. 5 Minutes minimum pre-heating is necessary for idle current alignment.
2. Set the volume control at minimum position.
3. Speaker switch should be set at off position.
4. Connect DC voltmeter across R638 for right channel and across R637 for left channel. (see fig. 1)
5. Record the reading of DC voltmeter and refer to the following chart to find the appropriate value resistor to connect in parallel with R622 (right channel), or R621 (left channel) on the bottom side (pattern side) of PCB.

* Important notice: The power switch must be in the off position when soldering is done.

Reading of DC Voltmeter	Parallel Resistor	Reading of DC Voltmeter	Parallel Resistor
0.5 to 1.0mV	820 ohm	2.5 to 3.5mV	1k8 ohm
1.0 to 1.5mV	1k ohm	3.5 to 4.5mV	2k2 ohm
1.5 to 2.0mV	1k2 ohm	4.5 to 5.5mV	2k7 ohm
2.0 to 2.5mV	1k5 ohm	5.5 to 7.0mV	3k3 ohm

6. Read the DC voltage across to R638 (right channel) and R637 (left channel) again.
7. If the DC voltage were between 6mV and 9mV, then the alignment is completed.
8. If the DC voltage were less than 6mV, the value of parallel resistor should be decreased until the DC voltage is between 6mV and 9mV.
9. If the DC voltage were more than 9mV, the value of parallel resistor should be increased until the DC voltage is between 6mV and 9mV.

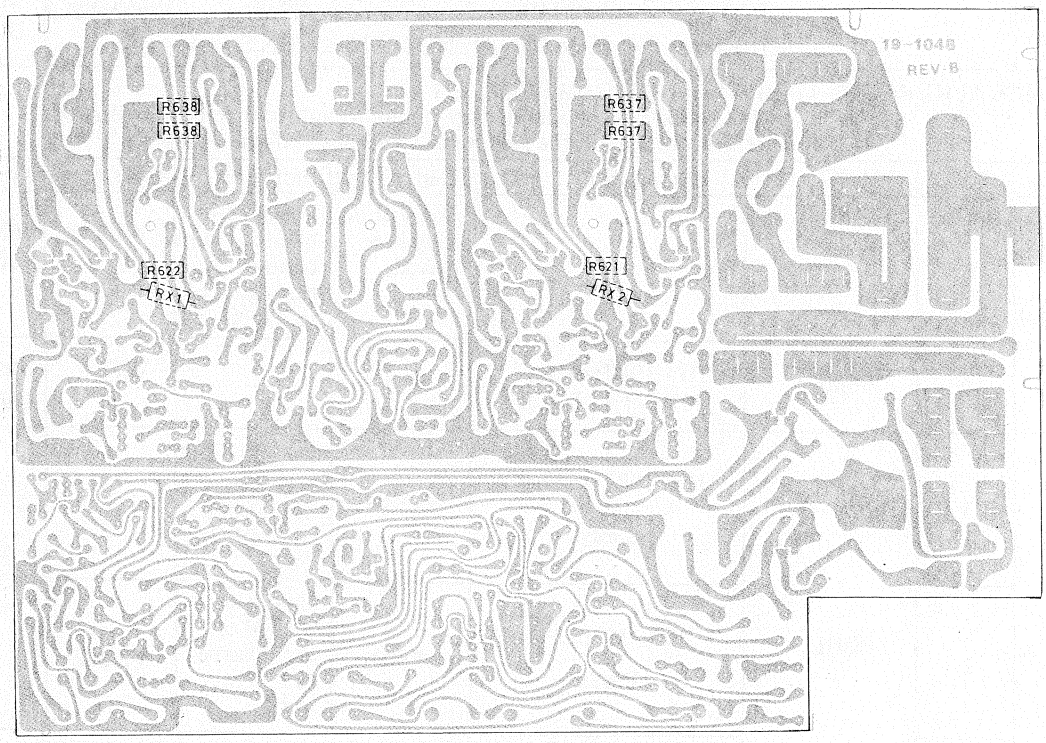


Fig 1.

ALIGNMENT (TUNER)

1. AM ALIGNMENT: 1. Selector switch in AM position
2. AC line voltage at rated voltage
3. Monitor output at REC OUT (TAPE 1 or TAPE 2)

Section		AM SG Connection	Carrier Freq.	Modulation	Dial Setting	Indicator	Adjustment Point	Adjust for
AM IF		Hot side of SG output through 200 pF to AM antenna trimmer Terminal (TP 1)	455 KHZ	30% Mod. 400 HZ	Point of non-interference	V. T. V. M. or Oscilloscope	LT 102	Maxinum output
AM RF	1	Hot side of SG output through 200 pF to EXT AM antenna Terminal on rear panel	600KHZ	30% MOD. 400 HZ	600KHZ	V.T.V.M or Oscilloscope	LA 101 LO 101	Maximum output
	2		1400 KHZ	30% MOD 400HZ	1400KHZ		TC – 2 TC – 4	
	3		Repeat Step 4 and Step 2					

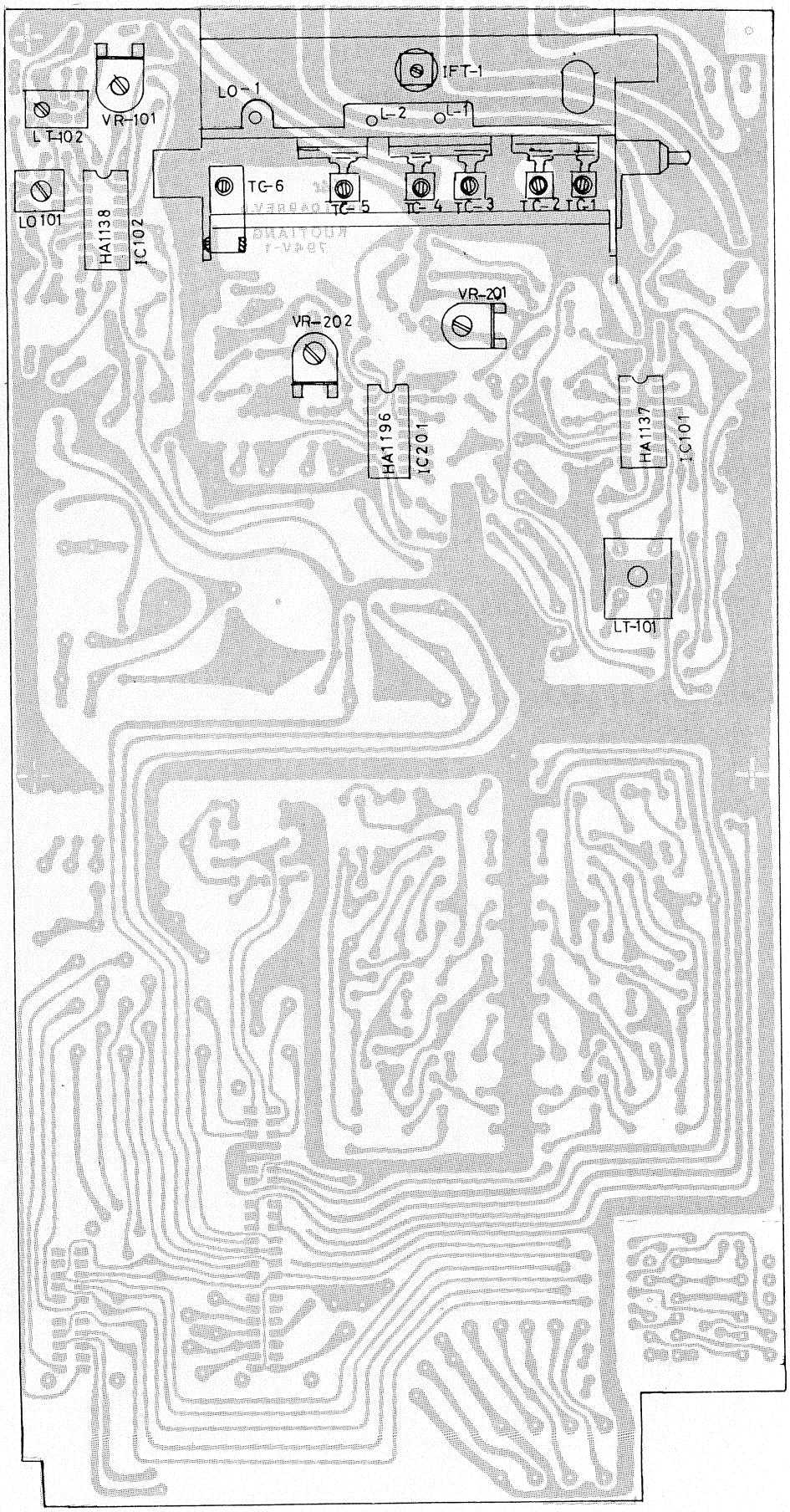
2. FM ALIGNMENT: 1. Selector switch in FM position and Mode switch in stereo position
2. AC line voltage at rated voltage
3. Monitor output at REC OUT (TAPE 1 or TAPE 2)

Section		FM SG Connection	Carrier Freq.	Modulation	Dial Setting	Indicator	Adjustment Point	Adjust for
FM IF		–	–	–	Point of non-interference	Tuning Meter of set	LT 101 Lower Side	Center Indication
FM RF	1	Connect to FM 300 ohm antenna Terminal on the rear panel through FM dumy antenna	90MHz	100% Mod	90 MHz	V. T. V. M. or Oscilloscope	LO –1, L–1 L–2, IFT–1	Maximum output
	2		106MHz	400 Hz	106 MHz		TC–1, TC-3 TC–5,TC-6	
	3		Repeat Step 1 and Step 2					
FM mono Distortion	1		98 MHz	100% Mod. 400 Hz	98 MHz	Distortion Meter	LT 101 Upper Side	Minimun Distortion
	2		Repeat FM IF and FM MONO DISTORTION Step 1.					

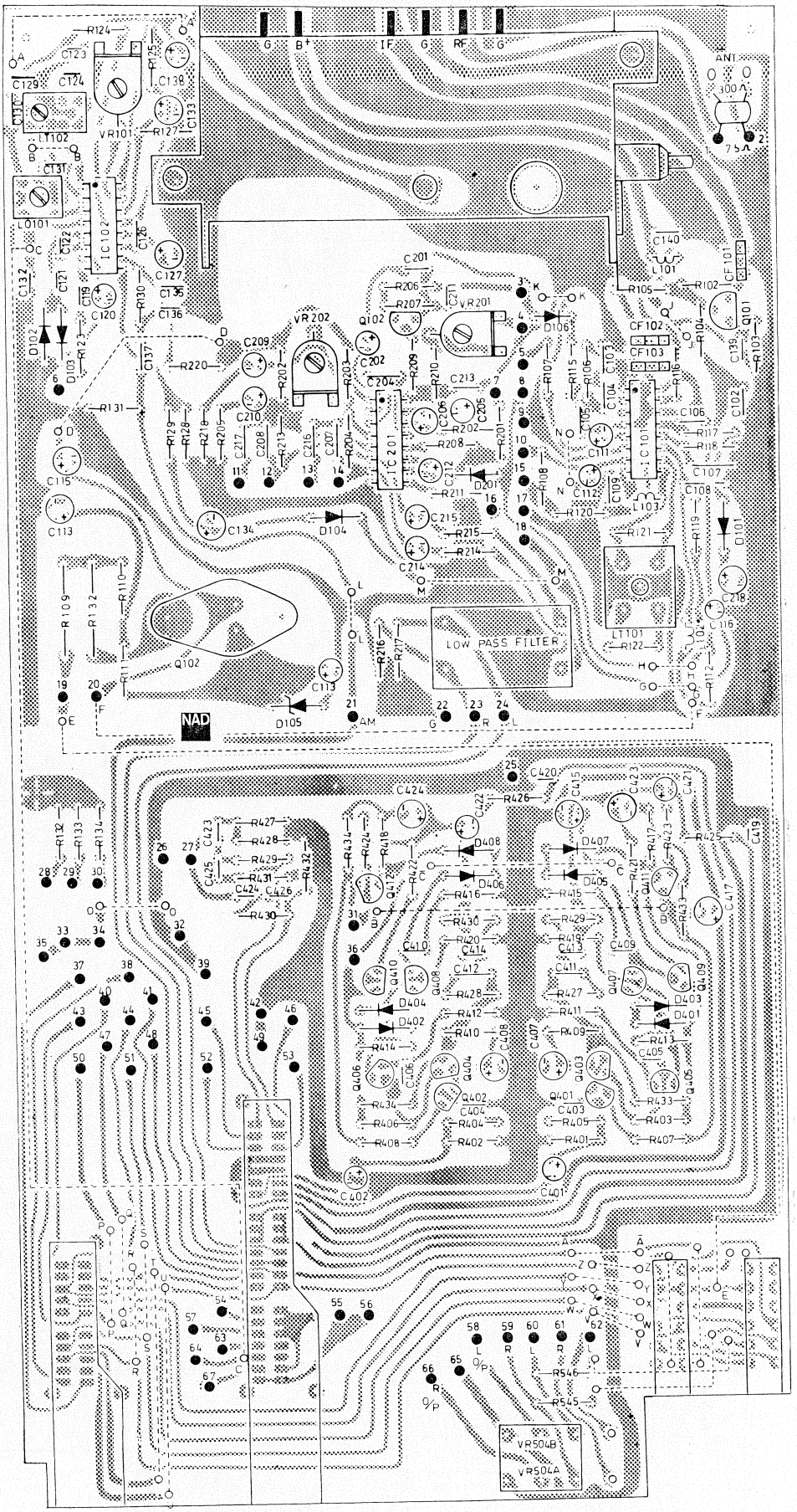
3. FM MPX ALIGNMENT: 1. Same as FM ALIGNMENT 1, 2, 3
2. FM SG is external modulated by stereo SG and connected to FM 300Ω antenna terminal on the rear panel through FM dumy antenna

Section	Step	FM SG	Stereo SG	Dial Setting	Indicator	Adjustment	Adjust for
MPX pilot	1	—	—	Point of no signal received	Connet frequency count counter through look to TP 10	VR 201	76KHZ ± 30HZ
	2	98MHz	10% 19KHz Pilot 90% I + R, L – R	98MHz	—	VR201	Stereo LED Light
Separation	1	98MHz	10% 19KHz Pilot L.only	98MHz	Connect VTl VTIM or oscilloscope to R REC out	VR202	Minimum output
	2		10% 19KHz Pilot R.only	98MHz	Connect VTVM or oscilloscipe to L REC out	VR202	
	3		Repeat Step 1 and Step 2				
	4		If there is an excessive difference between leak-free effects of both channels, slightly adjust VR 202 so that the levels of signal leakage of both channels are equal				

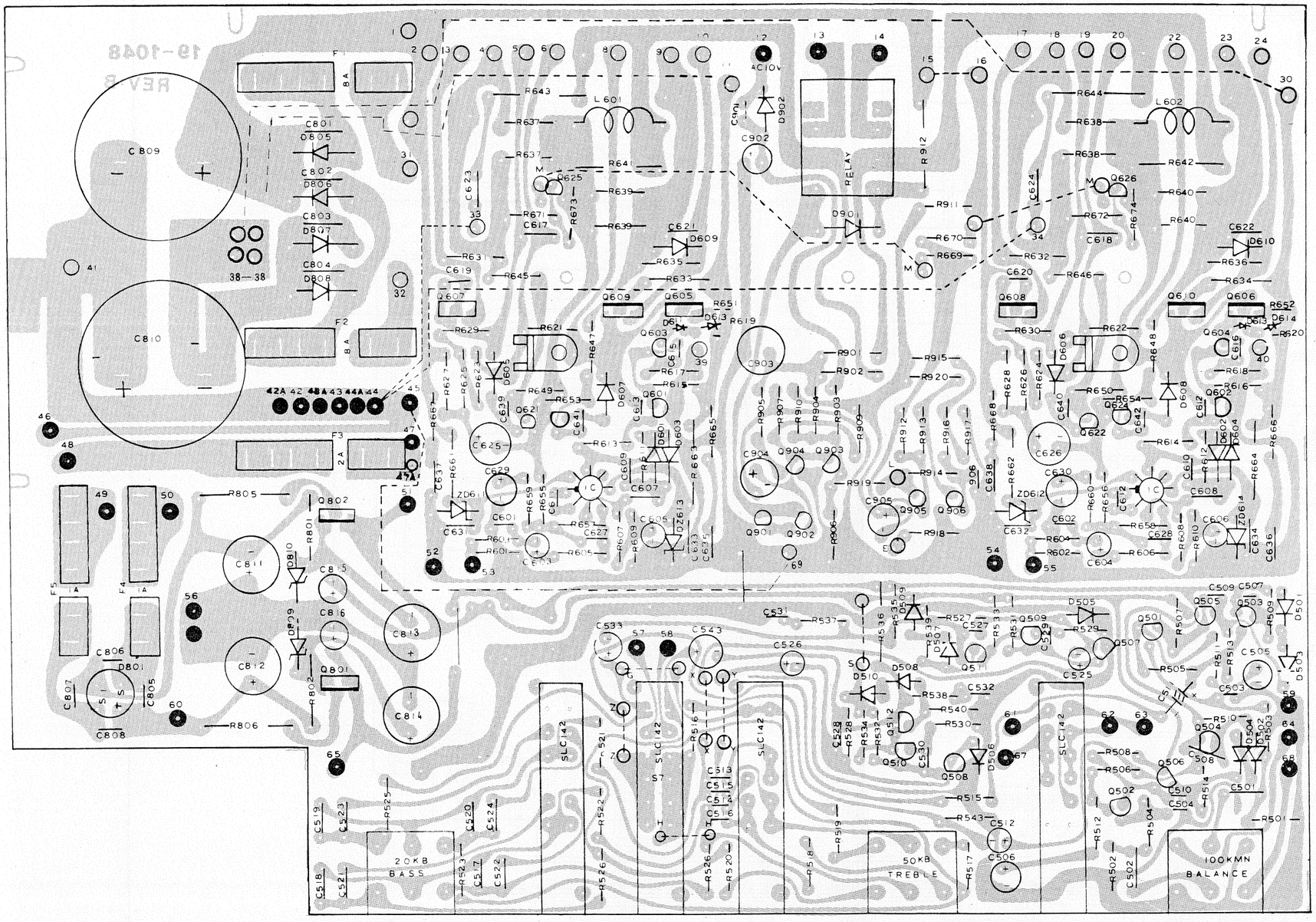
ALIGNMENT (TUNER)

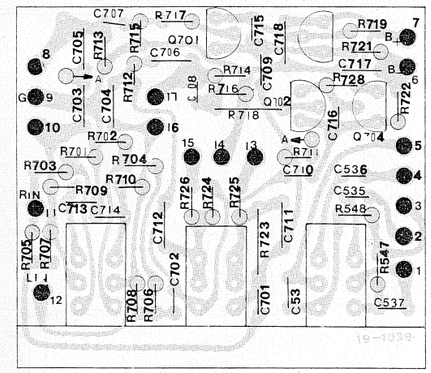


PCB PARTS LOCATION

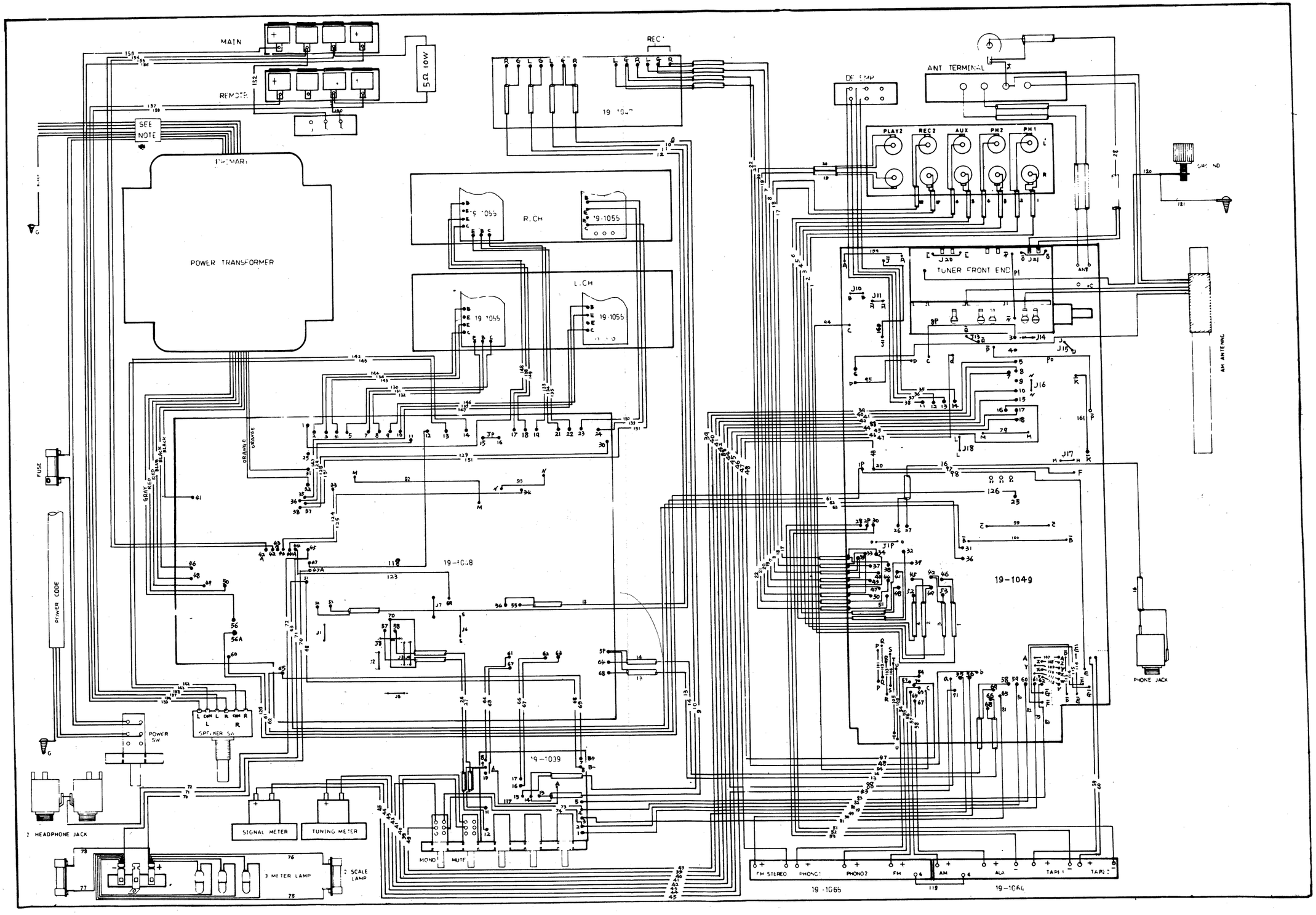


PCB PARTS LOCATION

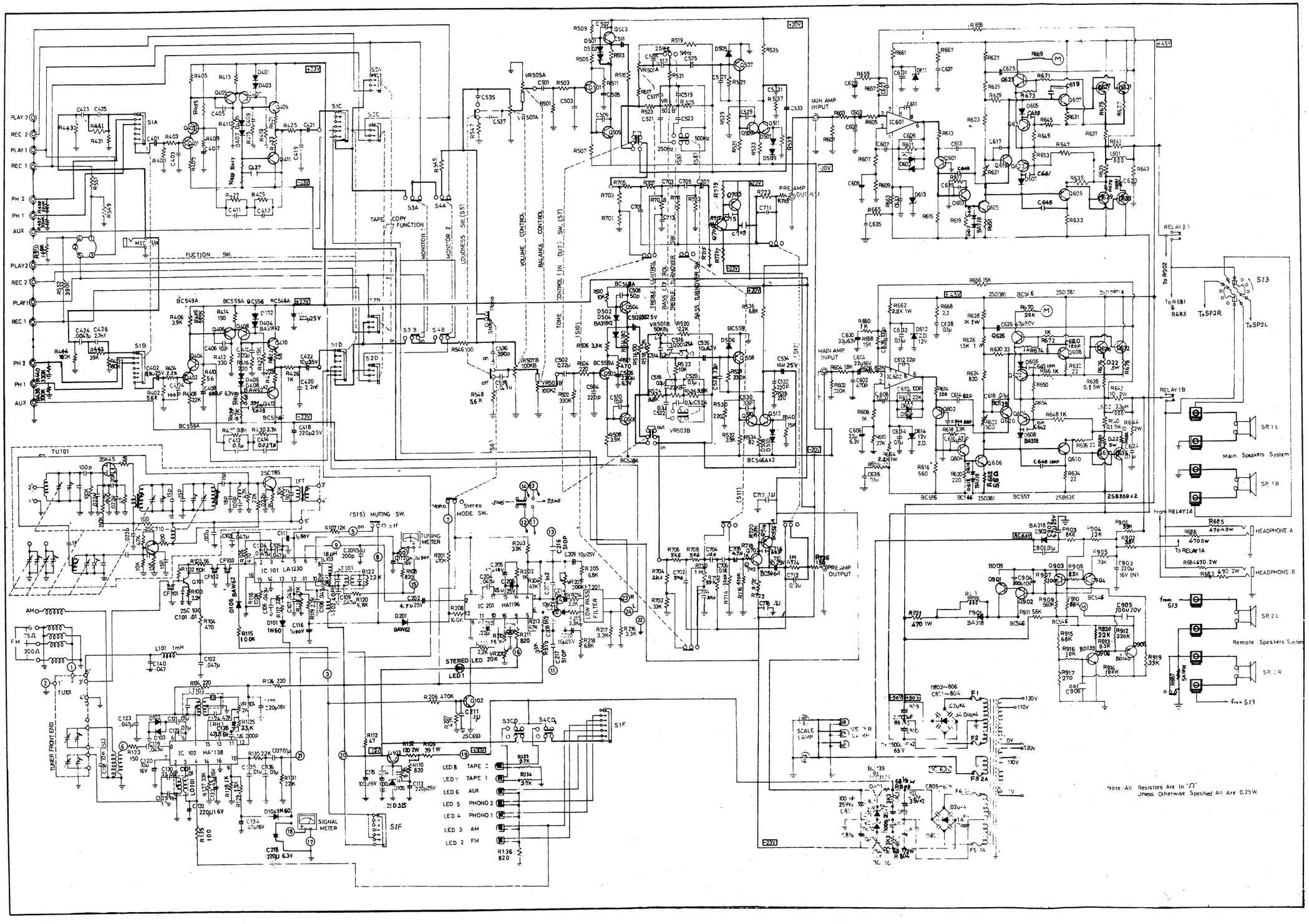




WIRING DIAGRAM



CIRCUIT DIAGRAM



PARTS LIST

90–1048 MAIN SECTION

ITEM	PARTS NO.	DESCRIPTION	Q'TY	SYMBOL NO.
1	16–½CP220J	CARBON RES. 22 OHM ½W ±5%	6	R631,632,633,634,635,636
2	16–¼CP332J	CARBON RES. 3.3K OHM ½W ±5%	2	R801,802
3	16–½CP680J	CARBON RES. 68 OHM ½W ±5%	2	R805,806
4	16–¼CM101J	CARBON RES. 100 OHM ¼W ±5%	2	R515,516
5	16–¼CM102J	CARBON RES. 1K OHM ¼W ±5%	12	R607,608,659,660,647,648,645, 646,671,672,673,674
6	16–¼CM103J	CARBON RES. 10K OHM ¼W ±5%	5	R509,510,521,522,916
7	16–¼CM104J	CARBON RES. 100K OHM ¼W ±5%	1	R907
8	16–¼CM 123J	CARBON RES. 12KOHM ¼W ±5%	1	R904
9	16–¼CM153J	CARBON RES. 15K OHM ¼W ± 5%	6	R539,540,655,656,657,658
10	16–¼CM 181J	CARBON RES. 180 OHM ¼W ±5%	2	R313,514
11	16–¼CM182J	CARBON RES. 1.8K OHM ¼W ±5%	2	R603,604
12	16–¼CM 184J	CARBON RES. 180K OHM ¼W ±5%	1	R914
13	16–¼CM 221J	CARBON RES. 220 OHM ¼W ±5%	4	R503,504,619,620
14	16–¼CM 222J	CARBON RES. 2.2K OHM ¼W ±5%	4	R517,518,519,520
15	16–¼CM223J	CARBON RES. 22K OHM ¼W ±5%	5	R611,612,669,670,920
16	16–¼CM224J	CARBON RES. 220K OHM ¼W ±5%	3	R601,602,912
17	16–¼CM271J	CARBON RES 270 OHM ¼W ±5%	1	R917
18	16–¼CM 273J	CARBON RES. 27K OHM ¼W ±5%	2	R609,610
19	16–¼CM330J	CARBON RES 33 OHM ¼W ±5%	2	R629,630
20	16–¼CM331J	CARBON RES. 330 OHM ¼W ±5%	2	R621,622
21	16–¼CM 332J	CARBON RES. 3.3K OHM ¼W ±5%	4	R505,506,617,618
22	16–¼CM333J	CARBON RES. 33K OHM ¼W ±5%	4	R901,902,905,919
23	16–¼CM334J	CARBON RES. 330K OHM ¼W ±5%	4	R501,502,527,528,
24	16–¼CM392J	CARBON RES. 3.9K OHM ¼W ±5%	8	R507,508,523,524,525,526, 531,532
25	16–¼CM471J	CARBON RES. 470 OHM ¼W ±5%	2	R511,512
26	16–¼CM472J	CARBON RES. 4.7K OHM ¼W ±5%	1	R918
27	16–¼CM561J	CARBON RES. 560 OHM ¼W ±5%	1	R911
28	16–¼CM564J	CARBON RES. 560K OHM ¼W ±5%	1	R909
29	16–¼CM682J	CARBON RES. 6.8K OHM ¼W ±5%	2	R535,536
30	16–¼CM683J	CARBON RES. 68K OHM ¼W ±5%	2	R910,915
31	16–¼CM821J	CARBON RES. 820 OHM ¼W ±5%	2	R623,624
32	16–¼CM822J	CARBON RES. 8.2K OHM ¼W ±5%	5	R605,606,903,913,906
33	16–¼CN101J	CARBON RES. 100 OHM ¼W ±5%	2	R613,614
34	16–¼CN221J	CARBON RES. 220 OHM ¼W ±5%	4	R529,530,619,620
35	16–¼CN2R2J	CARBON RES. 2.2 OHM ¼W ±5%	4	R665,666,667,668
36	16–¼CN561J	CARBON RES. 560 OHM ¼W ±5%	2	R615,616
37	16–¼CN820J	CARBON RES. 82 OHM ¼W ±5%	2	R533,534
38	16–¼CU5R6J	CARBON RES. 5.6 OHM ¼W ±5%	2	R651,652
38	16–1003	RES. MPC. 71 0.22 OHM 5W	8	R637,638,639,640,637A,638A, 639A,640A
40	16–1A102J	METAL OXIDE RES. 1K 1W ±5%	2	R627,628
41	16–1A152J	METAL OXIDE RES. 1.5K 1W ±5%	2	R625,626
42	16–1A222J	METAL OXIDE RES. 2.2K 1W ±5%	4	R661,662,663,664
43	16–1A471J	METAL OXIDE RES. 470 OHM 1W ±5%	1	R921
44	16–2A100J	METAL OXIDE RES. 10 OHM 2W ±5%	4	R641,642,643,644
45	17–0.63E227Y	ELEC. CAPA. 220μF 6.3V +50% –10%	2	C505,506
46	17–0.63E336Y	ELEC. CAPA. 33μF 6.3V +50% –10%	2	C629,630
47	17–1.6E226Y	ELEC. CAPA. 23μF 16V +50% –10%	2	C603,604
48	17–1.6S227Y	ELEC. CAPA. 220μF 16V +50%–10% (NON–POLAR)	1	C903
49	17–1E106Y	ELEC. CAPA. 10μF 10V +50% –10%	2	C525,526
50	17–1E107Y	ELEC. CAPA. 100μF 10V +50% –10%	2	C904,905
51	17–1E226Y	ELEC. CAPA. 22μF 10V +50% –10%	2	C605,606
52	17–2.5E106Y	ELEC. CAPA. 10μF 25V +50% –10%	4	C511,512,533,534
53	17–2.5E107Y	ELEC. CAPA. 100μF 25V +50% –10%	2	C815,816
54	17–2.5E108Y	ELEC. CAPA. 1000μF 25V +50% –10%	2	C813,814
55	17–2.5E475Y	ELEC. CAPA. 4.7μF 25V +50% –10%	1	C902
56	17–25D223K	CER. CAPA. 0.0022μF 250V ±10%	8	C801,802,803,804,805,806,807, 808
57	17–3.5E 477Y	ELEC. CAPA. 470μF 35V +50% –10%	2	C811,812
58	17–5D100D	CER. CAPA. 10PF ±0.5P 50V	2	C509,510
59	17–5D101M	CER. CAPA. 100PF ±20% 50V	4	C609,610,627,628
60	17–5D103M	CER. CAPA. 0.01μF ±20% 50V	6	C639,640,641,642,901,906
61	17–5D104M	CER. CAPA. 0.1μF ±20% 50V	16	C607,608,631,632,633,634,635, 636,637,638,617,618,623,624, 623A,624A
62	17–4D121M	CER. CAPA. 120P ±20% 50V	4	C619,620,645,646
63	17–5D220M	CER. CAPA. 229 ±20% 50V	2	C611,612
64	17–5D221M	CER. CAPA. 220P ±20% 50V	4	C503,504,531,532
65	17–5D330M	CER. CAPA. 339 ±20% 50V	4	C527,528,529,530
66	17–5D470M	CER. CAPA. 479 ±20% 50V	4	C507,508,615,616
67	17–5D471M	CER. CAPA. 470P ±20% 50V	2	C601,602
68	17–5D680M	CER. CAPA. 689 ±20% 50V	2	C643,644
69	17–5D820M	CER. CAPA. 829 ±20% 50V	2	C613,614

ITEM	PARTS NO.	DESCRIPTION	Q'TY	SYMBOL NO.
70	17–5E476Y	ELEC. CAPA. 47μF 50V +50% –10%	2	C625,626
71	17–5F104J	MYLAR CAPA. 0.1μF 50V ±5%	8	C517,518,519,520,521,522,523, 524
72	17–5F 122J	MYLAR CAPA. 0.0012μF 50V ±5%	4	C513,514,515,516
73	17–4F224J	MYLAR CAPA 0.22μF 50V ∓5%	2	C501,502
74	19–1048	PCB	1	
75	29–1040	INDUCTOR 0.6x6ϕx15T	2	L601,602
76	29–4057	BASS CONTROL 20KBx2	1	VR503A,VR503B
77	29–4058	TREBLE CONTROL 50KBx2	1	VR501A,VR501B
78	29–4060	BALANCE CONTROL 100KNN	1	VR505,505A
79	30–1011	ZENER DIODE 12V 0.5W	4	D611,612,613,614
80	30–1016	ZENER DIODE 23V 0.5W	2	D801,802
81	30–1017–2	DIODE G3D 100V	4	D803,804,805,806
82	30–1019	DIODE BAW62	24	D501,502,503,504,505,506,507, 508,509,510,601,602,603,604, 605,606,607,608,615,616,617, 618,901,902
83	30–1040	BRIDGE DIODE W02	1	B.D.801
84	30–2082	TRANSISTOR BD140	2	Q802,805
85	30–2083	TRANSISTOR BD139	3	Q801,901,906
86	30–2084–3	TRANSISTOR BC549C	4	Q503,504,505,506
87	30–2085–2	TRANSISTOR BC559B	4	Q501,502,507,508
88	30–2086	TRANSISTOR 2SB536M	2	Q609,610
89	30–2087	TRANSISTOR 2SD381M	4	Q605,606,607,608
90	30–2090–2	TRANSISTOR BC546B	13	Q509,510,511,512,603,604,621, 622,903,904,902,625,626
91	30–2096	TRANSISTOR BC556A	4	Q601,602,603,624
92	30–3010	IC. CA3100	2	IC601,602
93	31–1020	LEVER SW. SLC–142	4	SW5a.b. SW7a.b SW6a.b. SW8a.b.c.d.
94	35–3002	RELAY SD–205P	1	

90–1049 TUNER & EQ. SECTION

95	16-½CP272J	CARBON RES. 2.7K OHM ½W ±5%	2	R133,134
96	16–¼CM101J	CARBON RES. 100 OHM ¼W ±5%	1	R135
97	16–¼CM 102J	CARBON RES. 1K OHM ¼W ±5%	4	R425,426,128,202
98	16–¼CM 104J	CARBON RES. 100K OHM ¼W ±5%	5	R443,444,115,116,208
99	16–¼CM122J	CARBON RES. 1.2K OHM ¼W ±5%	1	R129
100	16–¼CM123J	CARBON RES. 12K OHM ¼W ±5%	1	R107
101	16–¼CM151J	CARBON RES. 150 OHM ¼W±5%	1	R123
102	16–¼CM153J	CARBON RES. 15K OHM ¼W ±5%	3	R210,419,420
103	16–¼CM154J	CARBON RES. 150K OHM ¼W ±5%	1	R102
104	16–¼CM184J	CARBON RES. 180K OHM ¼W ±5%	2	R431,432
105	16–¼CM221J	CARBON RES. 220 OHM ¼W ±5%	2	R415,416
106	16–¼CM222J	CARBON RES. 2.2K OHM ¼W ±5%	5	R103,119,122,130,209
107	16–¼CM223J	CARBON RES. 22K OHM ¼W ±5%	2	R117,131
108	16–¼CM332J	CARBON RES. 3.3K OHM ¼W ±5%	5	R125,214,215,216,217
109	16–¼CM333J	CARBON RES. 33K OHM ¼W ±5%	3	R127,203,212
110	16–¼CM392J	CARBON RES. 3.9K OHM ¼W ±5%	1	R121
111	16–¼CM393J	CARBON RES. 39K OHM ¼W ±5%	2	R441,442
112	16–¼CM471J	CARBON RES. 470 OHM ¼W ±5%	2	R104,106
113	16–¼CM472J	CARBON RES. 4.7K OHM ¼W ±5%	3	R433,434
114	16–¼CM473J	CARBON RES. 47K OHM ¼W ±5%	4	R118,204,207, 213
115	16–¼CM474J	CARBON RES. 470K OHM ¼W ±5%	2	R201,206
116	16–¼CM560J	CARBON RES. 56 OHM ¼W ±5%	1	R105
117	16–¼CM562J	CARBON RES. 5.6K OHM ¼W ±5%	2	R417,418
118	16–¼CM682J	CARBON RES. 6.8K OHM ¼W ±5%	3	R120,205,218
119	16–¼CM684J	CARBON RES. 680K OHM ¼W ±5%	2	R435,436
120	16–¼CM821J	CARBON RES. 820 OHM ¼W ±5%	4	R108,111,211,136
121	16–¼CN151J	CARBON RES. 150 OHM ¼W ±5%	2	R413,414
122	16–¼CN221J	CARBON RES. 220 OHM ¼W ±5%	2	R124,126
123	16–¼CN331J	CARBON RES. 330 OHM ¼W ±5%	2	R411,412
124	16–¼CM470J	CARBON RES. 47 OHM ¼W ±5%	1	R112
125	16–¼CN680J	CARBON RES. 68 OHM ¼W ±5%	4	R421,422,423,424
126	16–¼CN821J	CARBON RES' 820 OHM ¼W ±5%	1	R110
127	16–¼M222J	METAL FILM RES. 2.2K OHM ¼W ±5%	4	R403,404,407,408
128	16–¼M272J	METAL FILM RES. 2.7K OHM ¼W ±5%	2	R429,430
129	16–¼M392J	METAL FILM RES. 3.9K OHM ¼W ±5%	2	R405,406
130	16–¼M393J	METAL FILM RES. 39K OHM ¼W ±5%	2	R427,428
131	16–¼M560J	METAL FILM RES. 56 OHM ¼W ±5%	2	R409,410
132	16–¼M563T	METAL FILM RES. 56K OHM ¼W ±5%	2	R401,402
133	16–1A390K	METAL OXIDE RES. 39 OHM 1W ±10%	1	R109
134	16–2A121K	METAL OXIDE RES. 120 OHM 2W ±10%	1	R132
135	17–0.63E227Y	ELEC. CAPA. 220μF 6.3V +50% –10%	1	C218

ITEM	PARTS NO.	DESCRIPTION	Q'TY	SYMBOL NO.
136	17–0.63E687Y	ELEC. CAPA. 680μF 6.3V +50% –10%	2	C407,408
137	17–1.6E106Y	ELEC. CAPA. 10μF 16V +50% –10%	1	C120
138	17–1.6E107Y	ELEC. CAPA. 100μF 16V +50% –10%	2	C114,115
139	17–1.6E227Y	ELEC. CAPA. 220μF 16V +50% –10%	2	C127,132
140	17–1.6E475Y	ELEC. CAPA. 4.7μF 16V +50% –10%	1	C138
141	17–1.6E476Y	ELEC. CAPA. 47μF 16V +50% –10%	2	C133,134
142	17–1.60224M	TA. CAPA. 0.22μF 16V ±20%	1	C212
143	17–1.60335M	TA. CAPA. 3.3μF 16V ±20%	3	C205,401,402
144	17–2.5E106Y	ELEC.. CAPA. 10μF 25V +50% –10%	6	C209,210,214,215,421,422
145	17–2.5E227Y	ELEC. CAPA. 220μF 25V +50% –10%	3	C113,417,418
146	17–2.5E475Y	ELEC. CAPA. 4.7μF 25V +50% –10%	1	C202
147	17–2.50155M	TA. CAPA. 1.5μF 25V ±20%	1	C206
148	17–5D100D	CER. CAPA. 109 ±0.59 50V	2	C405,406
149	17–5D103M	CER. CAPA. 0.01μF 50V ±20%	6	C101,121,122,131,135,136
150	17–5D104M	CER. CAPA. 0.1μF 50V ±20%	2	C137,211
151	17–5D221M	CER. CAPA. 220PF 50V ±20%	2	C409,410
152	17–5D101M	CER. CAPA. 100PF 50V ±20%	2	C403,404
153	17–5D473M	CER. CAPA. 0.047μF 50V ±20%	10	C106,102,103,104,105,107,108, 109,119,123
154	17–5D511K	CER. CAPA. 510PF 50V ±10%	2	C216,217
155	17–5E105Y	ELEC. CAPA. 1μF 50V +50% –10%	2	C111,116
156	17–5E336Y	ELEC. CAPA. 33μF 50V +50% –10%	2	C427,428
157	17–5E474Y	ELEC. CAPA. 0.47μF 50V +50% –10%	1	C112
158	17–5F104J	MYLAR CAPA. 0.1μF 50V ±5%	2	C411,412
159	17–5F122J	MYLAR CAPA. 0.012μF 50V ± 5%	2	C207,208
160	17–5F222J	MYLAR CAPA. 0.0022μF 50V ±5%	2	C419,420
161	17–5F 272J	MYLAR CAPA. 0.0027μF 50V ±5%	2	C425,426
162	17–5F273J	MYLAR CAPA. 0.027μF 50V ±5%	2	C413,414
163	17–5F472J	MYLAR CAPA. 0.0047μF 50V ±5%	2	C423,424
164	17–5F473J	MYLAR CAPA. 0.047μF 50V ±5%	1	C204
165	17–5M331J	SILVERED MICA 330PF 50V ±5%	1	C130
166	17–5V471J	STYROLENE CAPA. 470PF 50V ±5%	1	C213
167	17–5V100K	CER. CAPA. 109F 50V ±10% (RH)	1	C129
168	17–5V470K	CER. CAPA. 47PF 50V ±10% (RH)	1	C124
169	17–5W100K	CER. CAPA. 10PF 50V ±10% (SL)	1	C118
170	17–5W201K	CER. CAPA. 200PF 50V ±10% (SL)	2	C126,201
171	18–1016–1	CORE ASS'Y	1	
172	19–1049	PCB FOR TUNER & EQ	1	
173	29–1037	INDUCTOR 1 MH	1	L101
174	29–1038	INDUCTOR 40μH	1	L102
175	29–1039	INDUCTOR 18μH	1	L103
176	29–3008	FM DET COIL 10.7MHZ	1	LT101
177	29–3016–1	L.P.F. 19 & 38 KHZ FILTER	1	FT201
178	29–3017	CERAMIC SFL455	1	LT102
179	29–3018	AM OSC L–39	1	L0101
180	29–3027	CERAMIC FILTER SFE 10.7MA8	3	CF101,102,103
181	29–4021	SEMIFIXED RES. 2K	1	VR101
182	29–4023	SEMIFIXED RES. 20K	1	VR201
183	29–4047	VOLUME CONTROL 50KBx2 41 CLICK	1	VR507
184	29–4056	SEMIFIXED RES. 200K	2	VR202
185	30–1010	DIODE IN60	4	D101,102,103,104
186	30–1011	ZENER DIODE 12V 0.5W	1	D105
187	30–1019	DIODE BAW62	11	D401,402,403,404,405,406,407, 408,106,107,201.
188	30–2019	TRANSISTOR 2SC930C	1	Q101
189	30–2069	TRANSISTOR 2SC693FU	1	Q102
190	30–2080	TRANSISTOR 2SD315E	1	Q103
191	30–2084–3	TRANSISTOR BC549C	2	Q403,404
192	30–2085–2	TRANSISTOR BC559B	4	Q401,402,405,406
193	30–2090–2	TRANSISTOR BC546B	2	Q409,410
194	30–2096	TRANSISTOR BC556A	4	Q407,408,411,412
195	30–3013	I.C. LA1230	1	IC101
196	30–3016	I.C. HA 1196	1	IC201
197	30–3018	I.C. HA 1138	1	IC102
198	31–1018	SELECTOR SW. SRZ–V066N	1	SW1
199	31–1043	SWITCH SRZ–V043N	1	SW2
200	31–1044	PUSH SW. 2P	1	SW3,SW4
201	35–2008	FRONT END FB621V	1	TU101
90–1039 FILTER SECTION				
202	16–¼CM102J	CARBON RES. 1K OHM ¼W ±5%	1	R718
203	16–¼CM105J	CARBON RES. 1M OHM ¼W ±5%	1	R723
204	16–¼CV102J	CARBON RES. 1K OHM ¼W ±5%	1	R717
205	16–¼CV 105J	CARBON RES. 1M OHM ¼W ±5%	3	R709,710,724

ITEM	PARTS NO.	DESCRIPTION	Q'TY	SYMBOL NO.
206	16–¼CV124J	CARBON RES. 120K OHM ¼W ±5%	2	R713,714
207	16–¼CV151J	CARBON RES. 150 OHM ¼W ±5%	2	R725,726
208	16–¼CV153J	CARBON RES. 15K OHM ¼W ±5%	2	R553,554
209	16–¼CV222J	CARBON RES. 2.2K OHM ¼W ±5%	2	R703,704
210	16–¼CV272J	CARBON RES. 2.7K OHM ¼W ±5%	2	R721,722
211	16–¼CV332J	CARBON RES. 3.3K OHM ¼W ±5%	2	R547,548
212	16–¼CV333J	CARBON RES. 33K OHM ¼W ±5%	2	R701,702
213	16–¼CV392J	CARBON RES. 3.9K OHM ¼W ±5%	2	R791,720
214	16–¼CV393J	CARBON RES. 39K OHM ¼W ±5%	2	R711,712
215	16–¼CV474J	CARBON RES. 470K OHM ¼W ±5%	2	R715,716
216	16–¼CV562J	CARBON RES. 5.6K OHM ¼W ±5%	4	R705,706,707,708
217	17–1.6E475Y	ELEC. CAPA. 4.7μF 16V +50% –10%	2	C707,708
218	17–2.5E 106Y	ELEC. CAPA. 10μU 25V +50% –10%	2	C709,710
219	17–5D104M	CER. CAPA. 0.1μF 50V ±20%	2	C717,718
220	17–5D220M	CER. CAPA. 22PF 50V ±20%	2	C715,716
221	17–5D391M	CER. CAPA. 3909F 50V ±20%	2	C535,536
222	17–5F124J	MYLAR CAPA. 0.12μF 50V ±5%	6	C703,704,705,706,711,712
223	17–5F222J	MYLAR CAPA. 0.0022μF 50V ±5%	2	C713,714
224	17–5F224J	MYLAR CAPA. 0.22μF 50V ±5%	2	C537,538
225	17–5F562J	MYLAR CAPA. 0.0056μF 50V ±5%	2	C701,702
226	19–1039	PCB FOR FILTER	1	
227	30–2090–2	TRANSISTOR BC546B	2	Q701,702
228	30–2096	TRANSISTOR BC556A	2	Q703,704
229	31–1040	PUSH SW. 5KEY 2U	1	
Others				
230	16–¼CM102J	CARBON RES. 1K OHM ¼W ±5%	4	R555,556,557,558
231	16–¼CM104J	CARBON RES. 100K OHM ¼W ±5%	2	R549,550
232	16–¼CM334J	CARBON RES. 330K OHM ¼W ±5%	4	R437,438,439,440
233	16–¼CM394J	CARBON RES. 390K OHM ¼W ±5%	2	R551,552
234	16–1003	RES. MPC71 0.22 OHM 5W ±5%	8	R675,676,677,678,679,680, 681,682
235	16–10B5ROJ	CEMENT RES. 5 OHM 10W ±5%	1	R687
236	16–2A471J	METAL OXIDE RES. 470 OHM 2W ±5%	4	R683,684,685,686
237	17–6.3915PY	ELEC. CAPA. 15000μF 63V	2	C809,810
238	19–1047	PCB FOR TAPE	1	
239	19–1055	PCB FOR TRANSISTOR	4	
240	19–1064	LED PCB	1	
241	19–1065	LED PCB	1	
242	29–5005	AM ANT COIL LN–16	1	
243	30–1026	YELLOW LED 3φ	7	
244	30–1027	GREEN LED 3φ	1	
245	30–2083	TRANSISTOR BD139	2	Q619,620
246	30–2088	TRANSISTOR 2SD287BR	4	Q627,628,631,632
247	30–2109	TRANSISTOR 2SB539BR	4	Q629,630,633,634
248	31–1002	SWITCH 69	2	
249	31–1021	SPEAKER ROTARY SW. (SRY–2044)	1	SW13
250	31–2014	LAMP (FUSE TYPE)	2	
251	31–2016	LAMP 6.3V 150MA	3	
252	35–1011	TUNING METER	1	
253	35–1012	SIGNAL METER	1	
254	12–2006	AC OUTLET	2	FOR: IL,UL,SI,HK,SA,CSA
255	16–½C275K	CARBON FILM 2.7M OHM ½W ±10%	1	FOR: UL, CSA.
256	17–2001	CER. CAPA. ECK–DHS472MD	2	FOR: EC,SC,IL,SI,HK,AG,SA.
257	17–2003	CER. CAPA. ECK–DEL 472ZE	2	FOR: UL,CSA
258	17–2004	CER. CAPA. ECK–DGS 472 MD4	2	FOR: UK, AS.
259	29–2017A	POWER TRANSFORMER	1	FOR: SI,HK,SA
260	29–2017A–1	POWER TRANSFORMER 117V	1	FOR: UL
261	29–2017A–2	POWER TRANSFORMER 240V	1	FOR: UK,AS
262	29–2017A–3	POWER TRANSFORMER 220V	1	FOR: EC,SC,IL,AG
263	29–2017A–4	POWER TRANSFORMER 120V	1	FOR: CSA
264	31–1072A	POWER SW.	1	FOR: UL,CSA
265	31–1073A	POWER SW.	1	FOR: EC,SC,IL,UK,AS,SI,HK, AG,SA.
266	32–11001SS	FUSE 1A SEMCO	4	FOR: SC
267	32–12001SS	FUSE 2A SEMCO	2	FOR: SC
268	32–13151SS	FUSE 3.15A SEMCO	2	FOR: EC,IL,UK,AS,AG,SA
269	32–13001UT	FUSE 3A UL	2	FOR: SI,HK
270	32–15001UT	FUSE 5A UL	2	FOR: UL,CSA
271	32–16301SS	FUSE 6.3A SEMCO	4	FOR: SC
272	32–2001	FUSE HOLDER S–N 1301	1	FOR: VL,SI,HK
273	32–2003	FUSE HOLDER S–N 2250	1	FOR: IL,SA
274	32–2005	FUSE HOLDER	1	FOR: CSA